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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/256,227	02/24/1999	SHIGEO KISO	35.C13358	9571

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EXAMINER

BROPHY, JAMIE LYNN

ART UNIT PAPER NUMBER

2822

DATE MAILED: 11/01/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/256,227

Applicant(s)

KISO ET AL.

Examiner

J. L. Brophy

Art Unit

2822

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 October 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 14 and 27-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 14 and 27-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 February 1999 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

This office action is in response to the RCE filed 10/16/02.

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 6/7/02 has been entered.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 14 and 27-31, as far as understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Kataoka et al (5,530,264) in view of Ohta et al (5,641,997).

Kataoka et al teach a photovoltaic element 101 encapsulated with an encapsulant resin 102,104, the encapsulant resin comprising an UV absorbing agent and a silane coupling agent dissolved therein (col. 19, lines 27-37 and col. 22, line 49

through col. 23, line 11) and a surface member 103, 106 on a surface of the encapsulant resin 102, 104. See Fig. 2 and accompanying text.

However, Kataoka et al do not teach that the dissolved UV absorbing agent and silane coupling agent have a concentration gradient in the direction of thickness of the encapsulant resin.

Ohta et al teach a semiconductor element 5 encapsulated with an encapsulant resin 2, the encapsulant resin comprising an additive 18, wherein the additive has a concentration gradient in the direction of thickness of the encapsulant resin 2. See Figs. 4 and 5 and accompanying text. In addition, Ohta et al teach that, depending on what the additive is and what the properties of the additive are, the additive may exist in a greater concentration near the surface of the semiconductor element, or the additive may exist in a greater concentration near the surface of the encapsulant resin. For example, the resin composition in contact with the semiconductor chip contains a smaller amount of the flame retardant additive and a larger amount of the colorant additive (col. 17, lines 15-19 and col. 18, lines 34-38).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the encapsulant resin taught by Kataoka et al by forming the encapsulant resin so that the additive has a concentration gradient in the direction of thickness of the encapsulant resin so as to improve a property which is improved when the additive exists at one surface of the encapsulant without deteriorating a property which is deteriorated when the additive exists at the opposite surface (see Ohta et al, col. 2, lines 53-61).

Response to Arguments

Applicant's arguments filed 10/16/02 have been fully considered but they are not persuasive.

Applicant argues (middle of p. 3 of arguments filed 10/16/02) that Ohta does not refer to an UV absorbing additive and Kataoka does not discuss any advantages that would be obtained by the recited concentration variation of the additive. This argument is not found persuasive because the advantages that would be obtained by the recited concentration variation of the additive are taught by Ohta et al (col. 2, lines 53-61). In addition, even if Ohta et al do not specifically discuss an UV absorbing additive, a person of ordinary skill in the art at the time the invention was made would have a reasonable expectation of success with varying the concentration of additives that are common in semiconductor encapsulating resins, of which UV absorbing additives are an example. The Ohta et al reference provides the motivation for a person of ordinary skill in the art at the time the invention was made to make the modification to the teachings of Kataoka.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to J. L. Brophy whose telephone number is (703) 308-6182. The examiner can normally be reached on M-F (8:00-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amir Zarabian can be reached on (703) 308-4905. The fax phone numbers

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for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

J.L.B.

jlb

October 29, 2002


AMIR ZARABIAN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800